YUAN "CHARLES" CUI

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yccui.github.io

EDUCATION

Northwestern University   Evanston, IL
  Ph.D., Computer Science   2020 - Present
    Advisor: Matthew Kay
  Master's, Computer Science   2023
    Advisor: Matthew Kay

Oberlin College   Oberlin, OH
  B.A., Mathematics, Computer Science   2016 - 2020

Budapest Semesters in Mathematics   Budapest, Hungary
  Study Abroad   2019

PUBLICATIONS

Promises and Pitfalls: Using Large Language Models to Generate Visualization Items. Yuan Cui, Lily W. Ge, Yiren Ding, Lane Harrison, Fumeng Yang, Matthew Kay. *IEEE VIS* 2024.

Odds and Insights: Decision Quality in Exploratory Data Analysis Under Uncertainty. Abhraneel Sarma, Xiaoying Pu, Yuan Cui, Eli T Brown, Michael Correll, Matthew Kay. *ACM CHI* 2024.

Adaptive Assessment of Visualization Literacy. Yuan Cui, Lily W. Ge, Yiren Ding, Fumeng Yang, Lane Harrison, Matthew Kay. *IEEE VIS* 2023.

CALVI: Critical Thinking Assessment for Literacy in Visualizations. Lily W. Ge, Yuan Cui, Matthew Kay. *ACM CHI* 2023. (Best Paper Honorable Mention)

Can an Algorithm be My Healthcare Proxy?. Duncan McElfresh, Samuel Dooley, Yuan Cui, Kendra Griesman, Weiqin Wang, Tyler Will, Neil Sehgal, and John Dickerson. *Explainable AI in Healthcare and Medicine* 2021.

PROFESSIONAL EXPERIENCE

Max Planck Institute for Demographic Research   Rostock, Germany
  Social Data Science Researcher   06/2024 - 08/2024
    Building statistical models to estimate age-specific mortality at the national and subnational levels in a
    data scare context.

RegLab @ Stanford Law School   Stanford, CA
  Graduate Fellow   06/2023 - 08/2023
    Designed statistical sampling techniques to estimate racial disparity when data is scarce, and established
    performance guarantees with mathematical proofs. Built simulations and estimated the health disparity
    in a dataset containing ~7M Americans' healthcare records.

Carnegie Mellon University & Data Science for Social Good Foundation   Pittsburgh, PA
  Data Science Fellow   05/2022 - 08/2022
    Built a machine learning system to improve the routing of the 988 Suicide & Crisis Lifeline which
    serves 2,000,000+ callers per year. Obtained preliminary results that showed the new system could
    help ~20,000 additional callers each year.

University of Chicago Consortium on School Research Remote
Research Intern 03/2022 - 05/2022
    Conducted clustering analysis on Chicago Public Schools data to predict students' graduation rate.

HomeRiser, Inc Remote
Co-founder, Head of Data Science 01/2021 - 10/2021
    Co-founded a real estate technology start-up that uses a novel business model powered by data science
    to provide more flexible and affordable ways to finance people's home ownership. Developed a financial
    model in Python that simulated cash flow and generated a detailed profit and loss statement.

PRESENTATIONS, WORKSHOPS, TUTORIALS

Conference Presentations

IEEE VIS. *"Adaptive Assessment of Visualization Literacy."* Oct 2023, Melbourne, Australia.

Data for Good. *"Improving the 988 Suicide & Crisis Lifeline's Service Through Better Call Routing."* Sept
2022, Seattle, WA. Joint with Irene Tang.

Tutorials

ACM FAccT. *"Data Externalities."* Mar 2021, Remote. Joint with Rediet Abebe, Mihaela Curmei,
Andreas Haupt, and Yixin Wang.

Workshops

ACM CHI. *"Toward a More Comprehensive Understanding of Visualization Literacy."* May 2024,
Honolulu, Hawaii. Joint with Lily W. Ge, Maryam Hedayati, Yiren Ding, Karen Bonilla, Alark Joshi,
Alvitta Ottley, Benjamin Bach, Bum Chul Kwon, David N. Rapp, Evan Peck, Lace M. Padilla, Michael
Correll, Michelle A. Borkin, Lane Harrison, Matthew Kay.

HONORS AND AWARDS

NICO Intersection Science Fellowship, Northwestern University	2024
HCI + Design Cluster Fellowship, Northwestern University	2022
Phi Beta Kappa, Oberlin College	2020
Elbridge P. Vance Scholar of Mathematics, Oberlin College	2016 - 2020

PROFESSIONAL SERVICE

The Journal of Visualization and Interaction
    Open Practices Chair   2024 - present

EAAMO Bridges (formerly MD4SG)
    Co-Director   2022 - present
    Co-Lead of the Data Economies Working Group   2021
    Membership Manager   2021

Conference Reviewer
  IEEE VIS   2024
  ACM CHI   2024

Conference Volunteer
  ACM STOC   2021
  ACM EC   2020

TEACHING EXPERIENCE

Teaching Assistant

Northwestern University   Evanston, IL
  Computer Science Department   2021-2024

  Design & Analysis of Algorithms, Mathematical Foundations of Computer Science (2x)

Oberlin College   Oberlin, OH
  Mathematics Department   2017-2020

  Linear Algebra (2x), Discrete Mathematics (2x), Calculus II, Calculus I

  Economics Department   2019

  Principles of Finance

  Computer Science Department   2017

  Introduction to Computer Science